

LISTING OF THE CLAIMS

1. (currently amended) An apparatus ~~Apparatus~~ for the classification of physiological events on the basis of physiological signals ~~which represent or constitute the physiological events by means of a probabilistic neural network (5) including,~~ said apparatus comprising:

[[-]] a probabilistic neural network ~~(5)~~ which is adapted to receive a set of values representing the physiological signal and which contains a number of event classes which represent physiological events and which are respectively determined by a number of comparative values, which network is adapted on the basis of the comparison of the set of values with the comparative values to implement an association of the physiological signal represented by the set of values with one of the event classes, and

[[-]] an updating unit ~~(10)~~ connected to the probabilistic neural network ~~(5)~~ for updating the comparative values of an event class on the basis of the set of values of at least one physiological signal which has been associated with said event class in a preceding association operation.

2. (currently amended) The ~~An~~ apparatus of claim 1, wherein: ~~as set forth in claim 1~~ ~~wherein~~

the updating unit ~~(10)~~ is so designed that upon updating of the comparative values an average value is formed from a number of value sets which have previously resulted in an association of the physiological signals which they represent with the event class to be updated and wherein the updating operation is effected on the basis of the average value formed in that way.

3. (currently amended) The ~~An~~ apparatus of claim 1, wherein: ~~as set forth in claim 1~~ ~~wherein~~

the updating unit (10) is so designed that upon updating of the comparative values exponential weighting of a number of value sets which have previously resulted in an association of the physiological signals which they represent with the event class to be updated is effected and wherein the updating operation is effected on the basis of the exponentially weighted value sets.

4. (currently amended) The An apparatus of claim 3, wherein: ~~as set forth in one of claims 1 through 3 wherein~~ the updating unit (10) is so designed that updating of an event class is effected after the association of a n-th value set with said event class, wherein that defines a predetermined number of value sets.

5. (currently amended) The An apparatus of claim 4, wherein: ~~as set forth in claim 4 characterized in that~~ different values for n are to be associated with different event classes.

6. (currently amended) The An apparatus of claim 5, further comprising ~~as set forth in one of the preceding claims which also includes:~~

[[-]] a signal input for the input of a physiological signal; and

[[-]] a transformation unit (3) which is connected to the signal input for receiving the physiological signal and which is adapted to implement a transformation of the physiological signal in such a way that as the output signal it outputs a number of values representing the physiological signal and based on the transformation operation; wherein the probabilistic neural network (5) is connected to the transformation unit (3) for receiving the values as the value set.

7. (currently amended) The An apparatus of claim 6, wherein: ~~as set forth in claim 6 characterized in that~~ the transformation unit (3) is adapted for executing the transformation operation on the basis of wavelets and a transformation rule determining the values to be outputted using the wavelets.

8. (currently amended) An implantable medical device, comprising: ~~characterized in that it is provided with an apparatus for the classification of physiological events as set forth in one of~~

claims 1 through 7 an apparatus for the classification of physiological events on the basis of physiological signals comprising:

a probabilistic neural network which is adapted to receive a set of values representing the physiological signal and which contains a number of event classes which represent physiological events and which are respectively determined by a number of comparative values, which network is adapted on the basis of the comparison of the set of values with the comparative values to implement an association of the physiological signal represented by the set of values with one of the event classes, and

an updating unit connected to the probabilistic neural network for updating the comparative values of an event class on the basis of the set of values of at least one physiological signal which has been associated with said event class in a preceding association operation.

9. (currently amended) ~~The An~~ implantable medical device of claim 8, wherein: ~~as set forth in claim 8 characterized in that it~~ the medical device is in the form of a cardiac pacemaker or defibrillator.

10. (new) The apparatus of claim 1, wherein:

the updating unit is so designed that updating of an event class is effected after the association of a n-th value set with said event class, wherein that defines a predetermined number of value sets.

11. (new) The apparatus of claim 2, wherein:

the updating unit is so designed that updating of an event class is effected after the association of a n-th value set with said event class, wherein that defines a predetermined number of value sets.

12. (new) The apparatus of claim 10, wherein:

different values for n are to be associated with different event classes.

13. (new) The apparatus of claim 11, wherein:

different values for n are to be associated with different event classes.

14. (new) The apparatus of claim 1, further comprising:

a signal input for the input of a physiological signal; and

a transformation unit which is connected to the signal input for receiving the physiological signal and which is adapted to implement a transformation of the physiological signal in such a way that as the output signal it outputs a number of values representing the physiological signal and based on the transformation operation; wherein the probabilistic neural network is connected to the transformation unit for receiving the values as the value set.

15. (new) The apparatus of claim 14, wherein:

the transformation unit is adapted for executing the transformation operation on the basis of wavelets and a transformation rule determining the values to be outputted using the wavelets.